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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/074,115 | 02/11/2002 | Michael E. Buckley | CS90047RF | 7729 |
| 20280 | 7590 | 03/14/2005 | EXAMINER | |
| MOTOROLA INC 600 NORTH US HIGHWAY 45 ROOM AS437 LIBERTYVILLE, IL 60048-5343 | | | TORRES, JOSEPH D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2133 | |

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,115

Applicant(s)

BUCKLEY ET AL.

Examiner

Joseph D. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-11, 15-18 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 4-6, 12-14 and 19-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings were received on 01/28/2005. These drawings are accepted.

Response to Arguments

2. Applicant's arguments filed 01/28/2005 have been fully considered but they are not persuasive.

The Applicant contends, "none of the cited references disclose or suggest, puncturing a data stream for a first transmission to provide a set of first unpunctured trellis sections, puncturing a data stream for a second transmission to provide a set of second unpunctured trellis sections".

The Examiner disagrees and asserts that col. 11, lines 18-28 in Eroz teaches 4 different rate compatible puncturing patterns. The Abstract explicitly teaches that the set of rate compatible Turbo codes (Note: the set of rate compatible Turbo codes is derived from the puncturing patterns, that is, each puncturing pattern represents one of the turbo codes in the set rate compatible Turbo codes) is used in the Turbo encoding scheme whereby one of the puncturing patterns is selected for a particular transmission. The Examiner asserts that it is impossible to use two different puncturing patterns for the same transmission. Furthermore col. 2, lines 36-40 in Eroz teaches that the rate compatible Turbo codes are

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intended to support incremental redundancy and one of ordinary skill in the art at the time the invention was made would have known that incremental redundancy is an HARQ protocol whereby different levels of redundancy are provided to a receiver in separate transmissions, i.e., more than one transmission.

The Applicant contends, " Kim does not teach incremental redundancy combining first and second transmissions of a trellises to provide uniform patterned and non-adjacent first and second unpunctured trellis sections".

Merriam-Webster's Collegiate Dictionary defines uniform as having always the same form, manner or degree: not varying or variable. Since the puncturing pattern in Eroz is uniformly repeated for each transmission every 4 bits and does not vary for each transmission, each transmission provides uniform patterned unpunctured trellis sections.

Merriam-Webster's Collegiate Dictionary adjacent as having common endpoints or border. Two different transmissions the second in response to a nack in a HARQ protocol using incremental redundancy are non-adjacent in time.

The Applicant contends, "the Office Action has not cited any location in the references for the alleged motivation to combine the references".

That is incorrect. Col. 2, lines 36-40 in Eroz teaches that the rate compatible Turbo codes taught in Eroz are intended to support HARQ protocols using incremental redundancy. The title of the Kim patent is "Data transmission

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apparatus and method for an HARQ data communication system” and the teachings in Kim are explicitly directed to incremental redundancy.

The encoders in Eroz are designed to be implemented in an HARQ protocol using incremental redundancy such as the one taught in Kim.

The Examiner disagrees with the applicant and maintains all rejections of claims 1-3, 7-11, 15-18 and 22-24. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 1-3, 7-11, 15-18 and 22-24 are not patentably distinct or non-obvious over the prior art of record in view of the references, Eroz; Mustafa et al. (US 6370669 B1, hereafter referred to as Eroz) and Kim; Min-Goo et al. (US 6697986 B2, hereafter referred to as Kim) in view of Ostman; Kjell (US 6738370 B2) and the 3GPP paper (3GPP TR 25.858 v1.0.4 (2002-01) 3 Generation Partnership Project: Technical Specification Group Radio Access Network; High Speed Downlink Packet Access; Physical Layer Aspects, Release 5) as applied in the last office action, filed 07/28/2004. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-3, 11, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ero; Mustafa et al. (US 6370669 B1, hereafter referred to as Ero) in view of Kim; Min-Goo et al. (US 6697986 B2, hereafter referred to as Kim).

See the Non-Final Action filed 07/28/2004 for detailed action of prior rejections.

2. Claims 7-9, 15, 16 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ero; Mustafa et al. (US 6370669 B1, hereafter referred to as Ero) and Kim; Min-Goo et al. (US 6697986 B2, hereafter referred to as Kim) in view of Ostman; Kjell (US 6738370 B2).

See the Non-Final Action filed 07/28/2004 for detailed action of prior rejections.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ero; Mustafa et al. (US 6370669 B1, hereafter referred to as Ero) and Kim; Min-Goo et al. (US 6697986 B2, hereafter referred to as Kim) in view of the 3GPP paper (3GPP TR 25.858 v1.0.4 (2002-01) 3 Generation Partnership

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Project: Technical Specification Group Radio Access Network; High Speed Downlink Packet Access; Physical Layer Aspects, Release 5).

See the Non-Final Action filed 07/28/2004 for detailed action of prior rejections.

Allowable Subject Matter

4. Claims 4-6, 12-14 and 19-21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See the Non-Final Action filed 07/28/2004 for detailed action of prior rejections.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

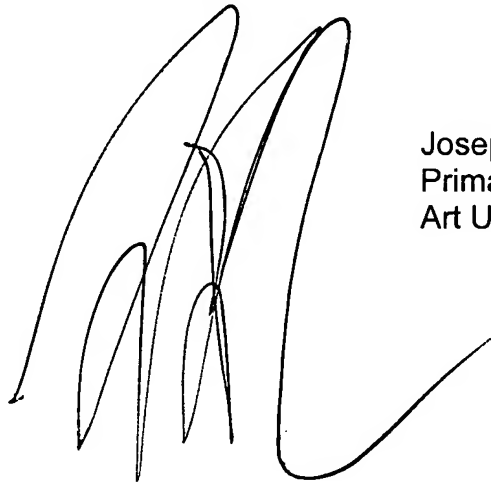
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of stylized, overlapping loops and strokes, likely representing the initials 'JDT'.

Joseph D. Torres, PhD
Primary Examiner
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